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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,930	06/04/1999	HANS FIESEL	C-DIT-1806/F	3464

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EXAMINER

NATNAEL, PAULOS M

ART UNIT	PAPER NUMBER
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2622

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/325,930

Applicant(s)

FIESEL, HANS

Examiner

Paulos M. Natnael

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following Final Action was originally mailed on November 18, 2003. The holding of abandonment has been withdrawn because the petition was granted. However, the finality of the action still applies and therefore has been repeated below.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5-9, 11-12 are again rejected under 35 U.S.C. 102(e) as being anticipated by Boie, U.S. Pat. No. 5,748,262.

Considering claim 1, Boie discloses all claimed subject matter, note;

The claimed frequency converter for converting an intermediate-frequency television signal (s2) to a low frequency by means of a mixer (4) which is fed at its radio-frequency signal input (4.1) with the intermediate-frequency television signal (s2) via an intermediate-frequency filter (3) and at its local-oscillator-signal input (4.2) with a local-oscillator signal (u), the frequency of the local-oscillator signal (u) lying in the range of an adjacent picture carrier (NBT) which is defined by a channel spacing (ko; ko*) and a respective television standard, and which after the

frequency conversion is suppressed as a converted adjacent picture carrier (NBT*), or at least attenuated

to a negligible residual amplitude, by means of a high-pass selectivity skirt (HP) of a filter device (5), is met by the circuit of FIG.2 that comprises Mixer 10 which is fed with the intermediate-frequency television signal via an intermediate-frequency Filter 7 and at its local-oscillator signal input with a local-oscillator (12) signal, wherein the second pass band filter is "being adapted to eliminate the signals of the channels adjacent to this constant frequency limit of the transposed signal..." (Col. 3, lines 14-16).

Considering claim 2, wherein the frequency offset (df) of the local-oscillator signal (u) from the adjacent picture carrier (NBT) is less than the high-pass cutoff frequency (fg) of the filter device is met by the disclosure in FIG.3D, wherein "the frequency $f_{sub.pc}$ has been lowered by a value that depends on the frequency of the local oscillator 12." (Col. 5, lines 14-16)

Considering claim 3, wherein the mixer (4) is fed at the local-oscillator-signal input (4.2) with a quantized local-oscillator signal (u), and that the harmonics produced by the mixer (4) are suppressed in the television signal (s4) by means of a low-pass selectivity skirt (TP1, TP2) of the filter device (5) is met by Filter 13, Fig. 2. (See also col. 5, line 62 through col. 6, line 2)

Considering claim 5, the claimed wherein the local-oscillator-signal input (4.2) is fed from a digitally controlled oscillator (8) whose frequency is determined by control signals (po) from a

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control unit (9) according to the respective television standard or the respective channel spacing is inherent, because a control unit such as a microprocessor, microcomputer, or any type of logic unit would have to be available in order to be able to control the overall function of the system by supply control signals to all units/parts of the system.

Considering claim 6, the claimed wherein after the filter device (5), the television signal (s5) is digitized for the further signal processing by means of an analog-to-digital converter (6) is met by A/D converter 23. (Fig.2).

Considering claim 7, Boie discloses all claimed subject matter, note;

- a) the claimed a mixer having first and second inputs and an output is met by Multiplier 11, (Fig.2)
- b) the claimed first filter being coupled to said first input of said mixer and adapted to provide an intermediate-frequency television signal (s2) thereto is met by filter 7, Fig. 2;
- c) the claimed an oscillator coupled to said second input of said mixer and adapted to provide an oscillator-signal (u) lying in a range of an adjacent picture carrier (NBT) which is defined by a channel spacing (k_0 ; k_0^*) and a respective television standard is met by Oscillator 12, Fig.2;
- d) the claimed a second filter coupled to said output of said mixer for attenuating said adjacent picture carrier to a negligible residual amplitude is met by Filter 13, fig.2;

Considering claim 8, see rejection of claim 2;

Considering claim 9, see rejection of claim 3;

Considering claim 11, see rejection of claim 5;

Considering claim 12, see rejection of claim 6;

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **4, 10, 13-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Boie, U.S. Pat. No. 5,748,262.

Considering claim 4, Boie discloses all claimed subject matter, except for;

The claimed “wherein the local-oscillator signal (u) is a square-wave signal, particularly a signal having the values +1 and -1”;

Regarding claim 4, Boie doesn't appear to disclose whether the local-oscillator signal (u) is a square-wave signal with the values +1 and -1. However, Boie suggests that "the frequency of the oscillator 12 can be modified by means of a voltage U applied to the oscillator 12, in order to adapt the fixed frequency f.sub.Lo to the TV standard concerned". (col. 5, lines 2-5)

Therefore, it would have been an obvious matter of design choice to the skilled in the art at the time the invention was made to modify the oscillator frequency with a desired value as

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suggested by Boie, since Applicant has not disclosed that having the range of +1 to -1 solves any stated problem, and it appears that any desired value would perform equally well.

Considering claim 10, see rejection of claim 4;

Considering claim 13, Boie discloses the following claimed subject matter, note;

- a) filtering an intermediate-frequency signal with a first filter; generating an oscillator signal (u) is met by the filter 7, Fig.2;
- b) mixing said filtered intermediate-frequency signal and said oscillator signal (u) is met by the Mixer 10, Fig.2;
- c) filtering said mixed signals using a second filter having a high-pass selectivity skirt located near the frequency origin and a low-pass characteristic for higher frequencies is met by the Filter 13, Fig.2;

Except for;

- d) separating said high-pass selectivity skirt filtered signal into visual and audible components for reproduction.

Regarding d), Boie doesn't disclose a method of separating the filtered signal into visual and audible components for reproduction. However, Examiner takes Official Notice here in that separating or demodulating or demultiplexing video/image/picture and audio signal and reproducing separately is well known in the art, and therefore, would have been obvious to the skilled in the art to modify the reference of Boie by providing a demultiplexer so that the signals

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are appropriately separated and transmitted to appropriate devices such as the display and speakers of the TV receiver.

Considering claim 14, wherein said first filter comprises a surface-wave filter is met by the disclosure that the "two filters are advantageously SAW (surface wave) filters" (col. 3, lines 19-20)

Considering claim 15, see rejection of claim 2;

Considering claim 16, see rejection of claim 3;

Considering claim 17, see rejection of claim 4;

Considering claim 18, see rejection of claim 6;

Considering claim 19, see rejection of claim 5;

Considering claim 20, see rejection of claim 5;

Response to Arguments

6. Applicant's arguments filed September 24, 2002 have been fully considered but they are not persuasive.

Applicant's Arguments

a) Accordingly, the filter processing of Boie, performed at IF, isolates the desired channel from the original signal. Furthermore, the filter 13 of Boie removes the adjacent channel by its low-pass selectivity skirt (HP), which is located above the highest frequency of the desired channel-

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this means the selection must operate at a much higher frequency range than in the present invention. Therefore, the selectivity skirt of Boie is more critical to define and to realize than the simple low frequency selectivity skirt of the invention. Its slope is not critical whether in its relative low frequency range or in its demand of the steepness of the slope.

b) Boie cannot be said to anticipate the present invention because Boie does not disclose performing baseband conversion using a LO frequency based on channel spacing and TV standard. Nor does Bole disclose suppressing converted adjacent channel, or at least attenuated to a negligible residual amplitude, by means of a high-pass selectivity skirt, as is claimed.

c) With regard to independent claim 7, the examiner rejected this claim citing the same reference used in rejecting claim 1. Thus, applicant's remarks made in response to the examiner's rejection of claim 1 are also applicable; in response to the examiner's rejection of claim 7. Accordingly, applicant submits that in view of the remarks made with regard to the rejection of claim 1, which are repeated herein in response to the rejection of claim 7, the examiner's rejection of claim 7 can no longer be sustained. Applicant respectfully requests reconsideration, withdrawal of the rejection and allowance of claim 7.

d) With regard to claims 4 and 10, the examiner suggests that it would be obvious to vary a voltage to obtain a square wave output of local oscillator. However, contrary to the examiner's suggestion, Bole does not disclose or suggest or provide the motivation to one skilled in the art to modify the device of Boie as suggested by the examiner. In fact, one would not be motivated to

implement the alteration of the LO setting as suggested by the examiner as the voltage U is used to alter the fixed LO frequency setting that is used for each different TV standard. One would not look to Boie to alter the fixed frequency of the LO frequency setting, as suggested by the examiner, as Boie only uses the voltage U to set the LO frequency setting for the different TV standards. Having shown that one would not look to Boie to implement the varying of the LO frequency setting, as suggested by the examiner, applicant submits that the present invention as recited in either claim 4 or 10 is not obvious in view of the reference cited.

e) With regard to independent claim 13, contrary to the examiner's position, independent claim 13 is not obvious over the cited reference. As previously stated, Boie discloses filtering to remove channels above the desired channel and does not disclose a filter having a high-pass selectivity skirt located near the frequency origin, as is claimed in the present invention. Accordingly, independent claim 13 is not obvious in view of the cited reference as even though de-multiplexing is well known in the art, Boie would not motivate one to develop the novel features of the present invention.

Examiner's Response

- a) Boie discloses that the second filter 13 is a band pass filter not a low pass.
- b) Of course, Boie discloses a conversion to baseband using local oscillator (LO) frequency based on channel spacing. Because, Boie discloses that "in a first stage, the signal (S_{n+1}) of channels adjacent to said substantially constant frequency limit are eliminated by filtering, choosing the filtering characteristics such that, whatever the bandwidth of the signal to be

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digitized (that may change from one standard to another), this signal to be digitized is not altered on its variable frequency limit side by the filtering.” (col.2, lines 26-32) Therefore, the argument that Boie does not disclose performing baseband conversion using a LO frequency based on channel spacing and TV standard, is unpersuasive.

c) see response in parts A and B.

d) As shown in the rejection of claims 4 and 10, Boie clearly suggests that the LO signal can be modified, “in order to adapt the fixed frequency to the TV standard concerned”. (col. 5, lines 2-5)

e) Boie discloses a band pass filtering, and that “the limit 5a remains substantially constant, whatever the TV standard is used, so the filter 13 whose limit 15 is also constant can be used for all TV standards...The width Q of the pass-band of the second filter SAW is chosen such that the signal to be processed is not altered by the second filter 13, whatever the TV standard. In other words, we choose the bandwidth Q such that in all cases, whatever the standard, the lower limit 16 of the pass-band 14 of the second filter 13 is less than the lower limit 6a of the signal to be processed. (co. 5, lines 45-55) Therefore, the argument that Boie “does not disclose a filter having a high-pass selectivity skirt located near the frequency origin”, is unpersuasive.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

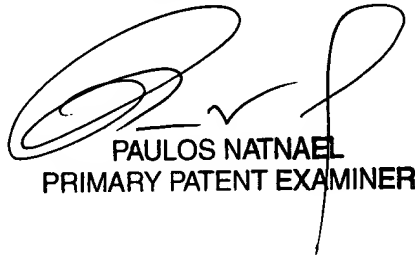
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (571) 272-7354. The examiner can normally be reached on 8AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Ometz can be reached on (571)272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 15, 2006



PAULOS NATNAEL
PRIMARY PATENT EXAMINER